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ABSTRACT

This document presents prototypical educational specifications to guide the building and renovation of Idaho vocational schools so they can help communities meet the advanced, professional-technical programs of the future. The specifications start with points to consider when determining school site suitability. The document then sets forth specification guidelines in two main sections. The first covers general building considerations, including circulation, vehicle access and parking, building security, and community use. The second section addresses specifications for specific educational spaces, such as agricultural science and technology, automotive mechanics, electronics, guidance and counseling, and the health professions. (GR)

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PROTOTYPICAL FACILITY EDUCATIONAL SPECIFICATIONS

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RESPONSIBILITY

This project was developed under contract with The Matrix Group, Inc., 424 Sherman Avenue, Coeur d'Alene, Idaho 83814. Supervision of this project was provided by Mr. Dick Winn, Program Manager for Marketing Education and Economic Development of the Idaho Division of Professional-Technical Education, 650 West State Street, Room 324, PO Box 83720, Boise, Idaho 83720-0095, Phone: (208) 334-3216, FAX: (208-334-2365. You may reach Mr. Winn at the following e-mail address: dwinn@pte.state.id.us.

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INTRODUCTION

Schools today face some of the greatest challenges ever. Teaching and guiding our young people has become a complex task that goes beyond the walls of the traditional schools. The economies of the communities of the State of Idaho have become intertwined with the global economy. The workers from the communities across Idaho now compete with workers across the country and even around the globe.

With the increasing changes in our economy and workforce, we recognize the need across our State for newer, updated facilities that will help our communities meet the challenges ahead. The facilities designed for the vocational education programs of several decades ago have not been modernized or rebuilt in order to meet the advanced, professional-technical programs of tomorrow. The infrastructure for technology is basically nonexistent. Many buildings do not meet most life safety codes nor accessibility requirements. Many schools have outdated electrical-mechanical systems and are not providing the comfort and energy efficiency necessary to operate economically.

In the spring of 1999, the State Division of Professional-Technical Education established a task force to develop prototypical educational specifications for professional-technical facilities for the State of Idaho. The task force identified educators (in both secondary education and post secondary education) and private sector representatives from across Idaho to work on fourteen different committees representing areas of Professional-Technical Education. Those committees met with professional school facility planners in the spring of 1999. In the fall of 1999, the committee members reviewed draft prototypical educational specification documents. In the late fall of 1999, the professional facility planners presented the final draft of

this document to educators from all six regions of the State to take final comments and suggested improvements. This final document is the end result of that process. It is our hope that this document will be used by educators, boards of trustees, and patrons across Idaho to improve our educational facilities.

These prototypical educational specifications are meant to serve as a guide for educators as they plan for improved facilities. They are not meant to be the only way to build. Rather, they should be used as a beginning. They should be reviewed and adapted to the unique needs and circumstances for each community they are intended to serve.

SITE

The subject of "The Site" involves locating a place to accommodate a particular program or function. Intelligent and imaginative site selection and development are significant aspects of educational facility planning. The site affects the educational program, cost, transportation needs, enrollment, landscaping, and numerous other factors including the value and land use characteristics of the surrounding area. The design and use of the land on which a facility is located is as important as the facility itself.

Each parcel of land identified as an existing or potential site should be thoroughly analyzed to determine its suitability in terms of educational plan, accessibility, cost, size and numerous other options.

Some of the questions that should be asked while determining the suitability of a site are:

- ☐ Will the site support the educational program?
- ☐ Is the site's location convenient for the majority of students?
- ☐ Is the site the right size and shape?
- ☐ Is the topography conducive to the desired site development?
- ☐ Is the general environment aesthetically pleasing?
- ☐ Is the site safe?
- ☐ Is the air quality healthful?
- ☐ Is the site free of industrial and traffic noise?
- ☐ Does the land drain properly and are soil conditions good?
- ☐ Does the site have trees and other natural vegetation?
- ☐ Is water suitable?

- ☐ Are easements of any nature affecting the use of the site?
- ☐ Is the site suitability oriented for energy construction?
- ☐ Is the site located in a flood plain?
- ☐ Is the site near other community services, libraries, parks and museums?
- ☐ What is the relationship of the site to other educational facilities?
- ☐ How is the surrounding land zoned? Will its development enhance the site?
- ☐ Is the site zoned properly?
- ☐ Are utility services available?
- ☐ Is the site served by the police, fire department, etc.?
- ☐ Can the land be shared with other community facilities, especially parks?
- ☐ Is the site available?
- ☐ What is the cost?

Understanding that it is not possible for a site to totally accommodate all these needs, priorities should be discussed to determine which criteria are more important that others.

GENERAL BUILDING CONSIDERATIONS

CIRCULATION

Accesses to all areas of each building need to meet the needs of the disabled and the Americans with Disabilities Act. Main entry areas need to be ceramic or vinyl composition tile. The hallway floor surfaces near the core areas should be vinyl tile for ease of cleaning. The floor surfaces in the different instructional and circulation areas should be determined by the program needs. Suggestion for specific floor coverings are found in the individual specifications in this document. Hallways need good lighting with consideration given to the effect of lighting on security.

VEHICLE ACCESS AND PARKING

There is a need for sufficient staff, student and visitor parking on any school site. Service vehicle access to the instructional areas and support service areas needs to be maintained. Access should be from a looped or perhaps a circular access road.

Space for school bus delivery and pick-up needs to be large enough for student populations. Handicapped bus access must be considered also. Lower curb heights should be considered in the handicapped bus delivery and pick-up area. If bus loops are used, there should be a sufficient turning radius for the largest buses. Student/parent drop-off and pick-up areas need to be easily accessible from the school building. The school bus delivery/ pick-up areas need to be easily accessible from the building and separated from student and staff parking and student/parent drop-off areas. There needs to be sufficient parking for staff, students, and patrons. Check with local officials regarding local rules for parking that need to be considered.

BUILDING SECURITY

Many buildings have existing security systems. If a building is remodeled, the building security system should be updated. At the end of the construction project, the school should have a building security system that serves the system adequately. One security code keypad needs to be placed in the main entrance near the main doors. Other keypads might be placed near entrances used by food service or custodial staff that use the building in non-school hours. Motion detectors should be placed in the main hallways, office areas, and computer labs. If practical, restrooms should be located away from the entrances of the facility for security purposes. Selection of "vandal-proof" equipment and fixtures in the building needs to be part of the specification process.

There needs to be exterior security lighting in bus drop-off zones, parking areas and outside storage areas. Security lighting in other areas should be adequate for visual supervision by law enforcement and security personnel.

TECHNOLOGY AND COMMUNICATIONS

The main phone system should have multiple lines controlled by a programmable phone system. Within the school, phones should be placed in all classrooms, offices and labs. The phone system should be programmed to enable incoming or outgoing calls directly from the classroom or labs. Many schools allow incoming calls only after going through the main office switchboard. Phone wiring should allow for fax machines and copiers in the offices. An intercom system needs to be provided that allows for office-classroom communications, all-call functions, and the ability for remote assessment of building occupancy.

A bell-clock system needs to be installed in each building as well as a fire alarm system.

A computer technology system to support the instructional and administrative needs of each facility will be an integral part of the school's success. The classrooms, labs, and offices within each facility need to be connected internally with a local area network. The local area network needs to be connected to the other facilities in the district and the Internet. In rural areas spaces for compressed video should be considered to allow program delivery to schools. Fiber optic cable should be considered for installation between the main distribution frame room and the data closets as required. Category 5 cable (or better) should be used for the connections to each of the classroom or lab drops. Additional computer peripherals and software need to be provided as needed and are usually budgeted outside the construction project. Each classroom should be equipped with a TV/VCR and have the ability to tie in with a CD ROM player. Classrooms should be connected to cable television and the media center for closed circuit receiving of instructional television or other programs via satellite.

COMMUNITY USE

There may be considerable use of each facility by the general community. The core areas need to be designed to accommodate such use. Common core areas in professional-technical facilities may include public restrooms, lecture halls, labs, reception areas, and food service areas. In addition, the computer labs and instructional labs may receive extended hour use.

MAINTENANCE AND ENERGY CONSERVATION

New HVAC equipment should take advantage of current energy conservation technologies. System controls need to be programmable and include economizer and optimized start-up features. Each system should be capable of off-site control through the use of a laptop or remote computer. Additional controls to manage peak load demand should be included in each system. Load shedding controls and the ability to sequentially bring food service equipment on

line is especially important. All basic interior lighting fixtures should be for T-8 light tubes and electronic ballasts. Light tubes should be selected that provide a high color index. Where spot lighting may be necessary, compact fluorescent lights should be used. In the large high-ceiling labs, the district should consider electrodeless, fluorescent lighting. Restrooms and classrooms should be equipped with occupancy and daylight sensors to control lighting. The surge protection for equipment used in this facility should be at the main electrical panel. This will allow the movement of technology equipment to any electrical outlet in the building and have protected, or conditioned, power. The electrical panels should have the breakers color coded for staged shut-down periods (e.g., all blue breakers are shut off during the Christmas break, yellow breakers shut off on the weekends, green breakers shut off for long weekends, etc.). To enable future remodeling with minimum cost, electrical service to classrooms and labs should be provided overhead to the extent possible. The security lighting in each parking area should be placed on timers or motion detectors for energy conservation.

Restroom fixtures that have water conservation features should be selected. The district should consider electronic sink faucets, electronic hand dryers, and electronic urinals and water closets. Irrigation meters should be separated from domestic water meters. The food service department should be equipped with gallon can crushers and trash compactors to lower future operating costs for solid waste disposal.

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